

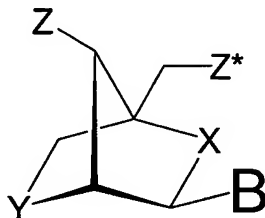
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1. (Currently Amended) A compound consisting of a total of 8-50 nucleotides and/or ~~nucleotide~~-nucleotide analogues, wherein said compound comprises a subsequence of at least 8 nucleotides or nucleotide analogues, said subsequence being located within a sequence selected from the group consisting of SEQ ID NO: 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56 or 57.
2. (Currently Amended) A compound of ~~according to claim 1~~, which modulates the expression of thioredoxin.
3. (Currently Amended) A compound of claim 1 consisting of 8-50 nucleotides and/or ~~nucleotide~~-nucleotide analogues targeted to a nucleic acid molecule encoding TRX, wherein said compound specifically hybridises with a nucleic acid encoding TRX and inhibits the expression of TRX and wherein said compound comprises a subsequence of at least 8 nucleotides or nucleotide analogues, said subsequence being located within a sequence selected from SEQ ID NO: 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, or 57.
4. (Currently Amended) The compound according to ~~any of claims 1-3~~ claim 1, which is an antisense oligonucleotide.
5. (Currently Amended) The compound according to ~~any of claims 1-4~~ claim 1, comprising at least one nucleotide analogue.

6. (Currently Amended) The compound according to ~~any of claims 1-5~~ claim 1, comprising at least one Locked Nucleic Acid (LNA) unit.

7. (Currently Amended) The compound according to ~~claims~~ claim 6, wherein the Locked Nucleic Acid (LNA) unit has the structure of the general formula

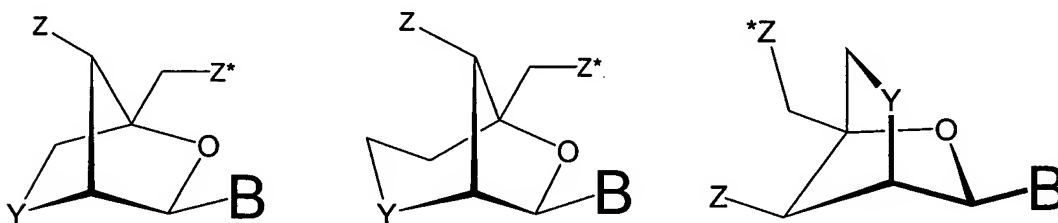


X and Y are independently selected among the groups -O-, -S-, -N(H)-, N(R)-, -CH₂- or -CH- (if part of a double bond), -CH₂-O-, -CH₂-S-, -CH₂-N(H)-, -CH₂-N(R)-, -CH₂-CH₂- or -CH₂-CH- (if part of a double bond), -CH=CH-, where R is selected from hydrogen and C₁₋₄-alkyl ; Z and Z* are independently absent, selected among an internucleoside linkage, a terminal group or a protecting group;

B constitutes a natural or non-natural nucleobase;

and the asymmetric groups may be found in either orientation.

8. (Original) The compound according to claim 6 or 7, wherein at least one nucleotide comprises a Locked Nucleic Acid (LNA) unit according any of the formulas



wherein Y is independently selected from -O-, -S-, -NH-, and N(R^H);

Z and Z* are independently absent, selected among an internucleoside linkage, a terminal group or a protecting group; and

B constitutes a natural or non-natural nucleobase.

9. (Currently Amended) The compound according to ~~any one of the preceding claims~~ claim 1, wherein the nucleotide analogue comprises an internucleoside linkage selected from the group consisting of -O-P(O)₂-O-, -O-P(O,S)-O-, -O-P(S)₂-O-, -S-P(O)₂-O-, -S-P(O,S)-O-, -S-P(S)₂-O-, -O-P(O)₂-S-, -O-P(O,S)-S-, -S-P(O)₂-S-, -O-PO(R^H)-O-, O-PO(OCH₃)-O-, -O-PO(NR^H)-O-, -O-PO(OCH₂CH₂S-R)-O-, -O-PO(BH₃)-O-, -O-PO(NHR^H)-O-, -O-P(O)₂-NR^H-, -NR^H-P(O)₂-O-, -NR^H-CO-O-, where R^H is selected from hydrogen and C₁₋₄-alkyl.

10. (Currently Amended) The compound according to ~~any one of the preceding claims~~ claim 1, wherein the nucleotide analogue comprises a modified nucleobases selected from the group consisting of 5-methylcytosine, isocytosine, pseudoisocytosine, 5-bromouracil, 5-propynyluracil, 6-aminopurine, 2-aminopurine, inosine, diaminopurine, 2-chloro-6-aminopurine.

11. (Currently Amended) The compound according to ~~any of claims 5-10~~ claim 5, wherein the LNA is oxy-LNA, thio-LNA, amino-LNA in either the D-β or L-α configurations or combinations thereof.

12. (Currently Amended) A compound consisting of a total of 8-50 nucleotides and/or ~~nucleotides~~ nucleotide analogues, targeted to a nucleic acid molecule encoding TRX, wherein said compound specifically hybridises with a nucleic acid encoding TRX and inhibits the expression of TRX and wherein said compound comprises a subsequence of at least 8 nucleotides or nucleotide analogues SEQ ID NO: 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, or 18.

13. (Original) The compound according to claim 4, wherein the antisense oligonucleotide is a design according to any of the designs presented in Figure 1.

14. (Original) The compound according to claim 13, wherein the antisense oligonucleotide is a gapmer.

15. (Currently Amended) The compound according to ~~any of the claims 1-14~~ claim 1, wherein the antisense oligonucleotide is a 13, 14, 15, 16, 17, 18, 19, 20 or 21-mer in ~~length~~ length.

16. (Currently Amended) The compound according to ~~any of the claims 1-15~~ claim 1, comprising at least 2 LNA units, such as 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 or 21 LNA units.

17. (Currently Amended) The compound according to ~~any of the claims 1-16~~ claim 1, wherein the subsequence is SEQ ID NO: ~~2a~~ 2.

18. (Currently Amended) The compound according to ~~any of the claims 1-16~~ claim 1, wherein the subsequence is SEQ ID NO: ~~3a~~ 3.

19. (Currently Amended) The compound according to ~~any of the claims 1-16~~ claim 1, wherein the subsequence is SEQ ID NO: ~~4a~~ 4.

20. (Currently Amended) The compound according to ~~any of the claims 1-16~~ claim 1, wherein the subsequence is SEQ ID NO: ~~5a~~ 68.

21. (Currently Amended) The compound according to ~~any of the claims 1-16~~ claim 1, wherein the subsequence is SEQ ID NO: ~~6a~~ 71.

22. (Currently Amended) The compound according to ~~any of the claims 1-16~~ claim 1, wherein the subsequence is SEQ ID NO: ~~7a~~ 74.

23. (Currently Amended) The compound according to ~~any of the claims 1-16~~ claim 1, wherein the subsequence is SEQ ID NO: ~~8a~~ 77.

24. (Currently Amended) The compound according to ~~any of the claims 1-16~~ claim 1, wherein the subsequence is SEQ ID NO: ~~9a~~ 80.

25. (Currently Amended) The compound according to ~~any of the claims 1-16~~ claim 1, wherein the subsequence is SEQ ID NO: ~~10a~~ 83.

26. (Currently Amended) The compound according to ~~any of the claims 1-16~~ claim 1, wherein the subsequence is SEQ ID NO: ~~11a~~ 86.

27. (Currently Amended) The compound according to ~~any of the claims 1-16~~ claim 1, wherein the subsequence is SEQ ID NO: ~~12a~~ 89.

28. (Currently Amended) The compound according to ~~any of the claims 1-16~~ claim 1, wherein the subsequence is SEQ ID NO: ~~13a~~ 92.

29. (Currently Amended) The compound according to ~~any of the claims 1-16~~ claim 1, wherein the subsequence is SEQ ID NO: ~~14a~~ 95.

30. (Currently Amended) The compound according to ~~any of the claims 1-16~~ claim 1, wherein the subsequence is SEQ ID NO: ~~15a~~ 98.

31. (Currently Amended) The compound according to ~~any of claims 57-72~~ claim 6, wherein the 3' end LNA is replaced by the corresponding natural nucleoside.

32. (Currently Amended) A compound consisting of SEQ ID NO: ~~2a~~ 2.

33. (Currently Amended) A compound consisting of SEQ ID NO: ~~3a~~ 3.

34. (Currently Amended) A compound consisting of SEQ ID NO: ~~4a~~ 4.

35. (Currently Amended) A compound consisting of SEQ ID NO: ~~5a~~ 68.

36. (Currently Amended) A compound consisting of SEQ ID NO: ~~6a~~ 71.

37. (Currently Amended) A compound consisting of SEQ ID NO: ~~7a~~ 74.

38. (Currently Amended) A compound consisting of SEQ ID NO: ~~8a~~ 77.

39. (Currently Amended) A compound consisting of SEQ ID NO: ~~9a~~ 80.

40. (Currently Amended) A compound consisting of SEQ ID NO: ~~10a~~ 83.

41. (Currently Amended) A compound consisting of SEQ ID NO: ~~11a~~ 86.

42. (Currently Amended) A compound consisting of SEQ ID NO: ~~12a~~ 89.

43. (Currently Amended) A compound consisting of SEQ ID NO: ~~13a~~ 92.

44. (Currently Amended) A compound consisting of SEQ ID NO: ~~14a~~ 95.

45. (Currently Amended) A compound consisting of SEQ ID NO: ~~15a~~ 98.

~~50~~ 46. (Currently Amended) The compound according to any of claims 34-45, wherein the 3' end LNA is replaced by the corresponding nucleotide.

~~51~~ 47. (Currently Amended) A conjugate comprising the compound according to ~~any of claims 1-50~~ claim 1 and at least one non-nucleotide or non-polynucleotide moiety covalently attached to said compound.

~~52~~ 48. (Currently Amended) A pharmaceutical composition comprising a compound as defined in ~~any of claims 1-51~~ claim 1 or a conjugate as defined in ~~claim 59~~ 47, and a pharmaceutically acceptable diluent, carrier or adjuvant.

~~53~~ 49. (Currently Amended) The pharmaceutical composition according to ~~claim 54~~ 48, further comprising at least one chemotherapeutic agent.

~~54~~ 50. (Currently Amended) The pharmaceutical composition according to ~~claim 52~~ 49, wherein said chemotherapeutic compound is selected from the group consisting of: adrenocorticosteroids, such as prednisone, dexamethasone or decadron; altretamine (hexalen, hexamethylmelamine (HMM)); amifostine (ethyol); aminoglutethimide (cytadren); amsacrine (M-AMSA); anastrozole (arimidex); androgens, such as testosterone; asparaginase (elspar); bacillus calmette-gurin; bicalutamide (casodex); bleomycin (blenoxane); busulfan (myleran); carboplatin (paraplatin); carmustine (BCNU, BiCNU); chlorambucil (leukeran); chlorodeoxyadenosine (2-CDA, cladribine, leustatin); cisplatin (platinol); cytosine arabinoside (cytarabine); dacarbazine (DTIC); dactinomycin (actinomycin-D, cosmegen); daunorubicin (cerubidine); docetaxel (taxotere); doxorubicin (adriomycin); epirubicin; estramustine (emcyt); estrogens, such as diethylstilbestrol (DES); etoposide (VP-16, VePesid, etopophos); fludarabine (fludara); flutamide (eulexin); 5-FUDR (floxuridine); 5-fluorouracil (5-FU); gemcitabine (gemzar); goserelin (zodalex); herceptin (trastuzumab); hydroxyurea (hydrea); idarubicin (idamycin); ifosfamide; IL-2 (proleukin, aldesleukin); interferon alpha (intron A, roferon A); irinotecan (camptosar); leuprolide (lupron); levamisole (ergamisole); lomustine (CCNU); mechlorathamine (mustargen, nitrogen mustard); melphalan (alkeran); mercaptopurine (purinethol, 6-MP); methotrexate (mexate); mitomycin-C (mutamucin); mitoxantrone (novantrone); octreotide (sandostatin); pentostatin (2-deoxycoformycin, nipent);

plicamycin (mithramycin, mithracin); prorocarbazine (matulane); streptozocin; tamoxifen (nolvadex); taxol (paclitaxel); teniposide (vumon, VM-26); thiotepa; topotecan (hycamtin); tretinoin (vesanoid, all-trans retinoic acid); vinblastine (valban); vincristine (oncovin) and vinorelbine (navelbine).

~~55~~ 51. (Currently Amended) A pharmaceutical composition comprising the compound of ~~any of claims 1-50~~ claim 1, which further comprises a pharmaceutically acceptable carrier.

~~56~~ 52. (Currently Amended) A pharmaceutical composition comprising the compound of ~~any of claims 1-50~~ claim 1, which is employed in a pharmaceutically acceptable salt.

~~57~~ 53. (Currently Amended) A pharmaceutical composition comprising the compound of ~~any of claims 1-50~~ claim 1, which constitutes a pro-drug.

~~58~~ 54. (Currently Amended) A pharmaceutical composition comprising the compound of ~~any of claims 1-50~~ claim 1, which further comprises an antiinflammatory compounds and/or antiviral compounds.

~~59~~ 55. (Currently Amended) Use of a compound as defined in ~~any of claims 1-50~~ claim 1 or as conjugate as defined in ~~claim-54~~ 47 for the manufacture of a medicament for the treatment of cancer.

~~60~~ 56. (Currently Amended) Use according to ~~claim-59~~ 55, wherein said cancer is in the form of a solid tumor.

~~64~~ 57. (Currently Amended) Use according to ~~claim-59 or 60~~ 55, wherein said cancer is a carcinoma.

~~62~~ 58. (Currently Amended) Use according to claim ~~61~~ 57, wherein said carcinoma is selected from the group consisting of malignant melanoma, basal cell carcinoma, ovarian carcinoma, breast carcinoma, non-small cell lung cancer, renal cell carcinoma, bladder carcinoma, recurrent superficial bladder cancer, stomach carcinoma, prostatic carcinoma, pancreatic carcinoma, lung carcinoma, cervical carcinoma, cervical dysplasia, laryngeal papillomatosis, colon carcinoma, colorectal carcinoma and carcinoid tumors.

~~63~~ 59. (Currently Amended) Use according to claim ~~62~~ 58 wherein said carcinoma is selected from the group consisting of malignant melanoma, non-small cell lung cancer, breast carcinoma, colon carcinoma and renal cell carcinoma.

~~64~~ 60. (Currently Amended) Use according to claim ~~63~~ 59, wherein said malignant melanoma is selected from the group consisting of superficial spreading melanoma, nodular melanoma, lentigo maligna melanoma, acral melanoma, amelanotic melanoma and desmoplastic melanoma.

~~65~~ 61. (Currently Amended) Use according to claim ~~60~~ ~~or~~ ~~61~~ 56, wherein said cancer is a sarcoma.

~~66~~ 62. (Currently Amended) Use according to claim ~~65~~ 61, wherein said sarcoma is selected from the group consisting of osteosarcoma, Ewing's sarcoma, chondrosarcoma, malignant fibrous histiocyoma, fibrosarcoma and Kaposi's sarcoma.

~~67~~ 63. (Currently Amended) Use according to claim ~~60~~ ~~or~~ ~~61~~ 56, wherein said cancer is a glioma.

~~68~~ 64. (Currently Amended) A method for treating cancer, said method comprising administering a compound as defined in ~~any of claims 1-50~~ claim 1, a conjugate as defined in

claim 51 or a pharmaceutical composition as defined in ~~any of claims 52-58~~ claim 48 to a patient in need thereof.

~~69~~ 65. (Currently Amended) The method according to claim ~~68~~ 64, wherein said cancer is in the form of a solid tumor.

~~70~~ 66. (Currently Amended) The method according to claim ~~68 or 69~~ 64, wherein said cancer is a carcinoma.

~~71~~ 67. (Currently Amended) The method according to claim ~~70~~ 66, wherein said carcinoma is selected from the group consisting of malignant melanoma, basal cell carcinoma, ovarian carcinoma, breast carcinoma, non-small cell lung cancer, renal cell carcinoma, bladder carcinoma, recurrent superficial bladder cancer, stomach carcinoma, prostatic carcinoma, pancreatic carcinoma, lung carcinoma, cervical carcinoma, cervical dysplasia, laryngeal papillomatosis, colon carcinoma, colorectal carcinoma and carcinoid tumors.

~~72~~ 68. (Currently Amended) The method according to claim ~~71~~ 67, wherein said carcinoma is selected from the group consisting of malignant melanoma, non-small cell lung cancer, breast carcinoma, colon carcinoma and renal cell carcinoma.

~~73~~ 69. (Currently Amended) The method according to claim ~~124~~ 68, wherein said malignant melanoma is selected from the group consisting of superficial spreading melanoma, nodular melanoma, lentigo maligna melanoma, acral melanoma, amelanotic melanoma and desmoplastic melanoma.

~~74~~ 70. (Currently Amended) The method according to claim ~~68~~ 64, wherein said cancer is a sarcoma.

~~75~~ 71. (Currently Amended) The method according to claim ~~74~~ 70, wherein said sarcoma is selected from the group consisting of osteosarcoma, Ewing's sarcoma, chondrosarcoma, malignant fibrous histiocytoma, fibrosarcoma, arteriosclerosis, psoriasis, diabetic retinopathy, rheumatoid arthritis, asthma, warts, allergic dermatitis and Kaposi's sarcoma.

~~75~~ 72. (Currently Amended) The method according to claim ~~68~~ 64, wherein said cancer is a glioma.

~~76~~ 73. (Currently Amended) A method of inhibiting the expression of TRX, in cells or tissues comprising contacting said cells or tissues with the compound according to ~~any of claims 1-50~~ claim 1 so that expression of TRX is inhibited.

~~77~~ 74. (Currently Amended) A method of modulating expression of a gene involved in a cancer disease comprising contacting the gene or RNA from the gene with an oligomeric compound wherein said compound has a sequence comprising at least an 8 nucleobase portion of SEQ ID NO: 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56 or 57 whereby gene expression is modulated.

~~78~~ 75. (Currently Amended) A method according to claim ~~77~~ 74, wherein the compounds comprises one or more LNA units.

~~79~~ 76. (Currently Amended) The method of claim ~~77~~ or 78 74, wherein the compound hybridizes with messenger RNA of the gene to inhibit expression thereof.

~~80~~ 77. (Currently Amended) A method of treating a mammal suffering from or susceptible from ~~an~~ a cancer disease, comprising:
administering to the mammal an therapeutically effective amount of an oligonucleotide targeted to TRX that comprises one or more LNA units.

~~81~~ 78. (Currently Amended) The method according to ~~any of the claims 77-80~~ claim 74, wherein the cancer ~~diseases~~ disease is a lung, breast, colon, prostate, pancreas, lung, liver, thyroid, kidney, brain, testes, stomach, intestine, bowel, spinal cord, sinuses, bladder, urinary tract or ovaries cancer.

~~82~~ 79. (Currently Amended) A method of modulating the red blood cell proliferation, cellular proliferation, ion metabolism, glucose and energy metabolism, pH regulation or matrix metabolism comprising contacting a cell with the antisense compound of ~~claim 1-50~~ claim 1 so that the cell is modulated.

~~83~~ 80. (Currently Amended) A method of inhibiting the proliferation of cells comprising contacting cells in vitro with an effective amount of the antisense compound of ~~claim 1-50~~ claim 1, so that proliferation of the cells is inhibited.

~~84~~ 81. (Currently Amended) The method of ~~claim-83~~ 80 wherein said cells are cancer cells.

~~85~~ 82. (Currently Amended) A method of inhibiting the expression of TRX in human cells or tissues comprising contacting human cells or tissues with the compound of ~~claim 1-50~~ claim 1 so that expression of TRX is inhibited.

~~86~~ 83. (Currently Amended) A method of treating an animal having a disease or condition associated with TRX comprising administering to an animal having a disease or condition associated with TRX a therapeutically or prophylactically effective amount of the antisense compound of claim 1 so that expression of TRX is inhibited.

~~87~~ 84. (Currently Amended) The method of ~~claim-86~~ 83 wherein the disease or condition is a hyperproliferative condition.

~~88~~ 85. (Currently Amended) The method of claim ~~87~~ 84 wherein the hyperproliferative condition is cancer.

~~89~~ 86. (Currently Amended) A method of treating a human having a disease or condition characterized by a reduction in apoptosis comprising administering to a human having a disease or condition characterized by a reduction in apoptosis a prophylactically or therapeutically effective amount of the antisense compound of ~~claim 1-50~~ claim 1.

~~90~~ 87. (Currently Amended) A method of modulating apoptosis in a cell comprising contacting a cell with the antisense compound of ~~claim 1-50~~ claim 1 so that apoptosis is modulated.

~~91~~ 88. (Currently Amended) A method of modulating cytokinesis in a cell comprising contacting a cell with the antisense compound of ~~claim 1-50~~ claim 1 so that cytokinesis is modulated.

~~92~~ 89. (Currently Amended) A method of modulating the cell cycle in a cell comprising contacting a cell with the antisense compound of ~~claim 1-50~~ claim 1 so that the cell cycle is modulated.

~~93~~ 90. (Currently Amended) A method of inhibiting the proliferation of cells comprising contacting cells with an effective amount of the antisense compound of ~~claim 1-50~~ claim 1, so that proliferation of the cells is inhibited.